

a diagnostic aid. In one patient with pupillary signs and a speech defect the diagnosis was between general paralysis and a hysterical psychosis. The record obtained from this patient showed peculiarities entirely different from those obtained from the general paralytics. The further observation, as well as the anamnesis, made it clear that the case was really one of hysteria.

Dr. L. Pierce Clark said that Dr. Scripture, for a number of years, had maintained that the voice of the epileptic was as characteristic as the facies, or more so, and that he had been induced to undertake with him a careful analysis of the voice in epilepsy. They had found that particularly in the *grand mal* type the voice of the epileptic showed certain alterations which were quite as characteristic as any of the well recognized stigmata of epilepsy. In order to test the accuracy of these observations on the voice in epilepsy, a number of patients at Randall's Island who were subject to that disease were mixed up with others who were suffering from various grades of mental deficiency about on a par with those usually observed in the chronic epileptic, and in nine of these patients out of ten, Dr. Scripture was able to detect merely from the speech whether the case was one of epilepsy or not.

Dr. Clark said that these voice studies seemed to him of immense scientific as well as practical value. For instance, it may be possible in the near future to roughly record in ordinary case-taking the melody, pitch and rhythm curves of speech in various functional nervous disorders, such as those of epilepsy, hysteria, neurasthenia and the like neuroses.

Dr. Onuf asked Dr. Scripture whether in epilepsy he could make the diagnosis from the voice alone, or whether he required the voice record, and what was his interpretation of the latter.

Dr. Scripture replied that while the existence of epilepsy could be recognized, after a little training, from the voice alone, he always preferred to base his opinion on the actual voice records and curves, when possible. When these were once heard and recognized, they were distinct and characteristic. The characteristic voice disappeared after the epilepsy was cured.

Dr. Leszynsky asked whether these characteristic voice curves were present in epilepsy of the ordinary type.

Dr. Dana asked how long after the onset of epilepsy this characteristic voice developed.

Dr. Clark said these questions could not be answered definitely, as the studies were only begun. The cases that had been studied were of the chronic type of epilepsy—patients in whom the disease had existed for periods ranging from two to ten years. The method had not yet been tried at the Craig Colony. He expressed the view that these characteristic voice curves would become as constant and fixed as other symptoms of the disease.

Dr. Scripture said the voice characteristics were apparent in the measurements of the curves long before they could be detected by the ear.

DISCUSSION ON THE ANTI-SYPHILITIC TREATMENT OF TABES AND PARESIS.

Dr. Dana said he had been treating these forms of nervous disease for many years by the use of mercury and iodides in the early stages,

giving the drugs both in mild and heroic doses. Some of the patients had improved under the method while others had grown worse, and whether it was really efficacious was a question that was still open for discussion. In tabes he had seen the treatment applied in the most rigid manner from the very onset without any effect upon the rapid development of the disease.

Dr. George W. Jacoby said that in any discussion of the treatment of tabes and paresis we could not but primarily consider the etiology of these affections, and in so doing it became apparent that their relation to some infection or intoxication was a very definite one.

All clinical observation, as well as other reasons which need not again be adduced, tended to show that the intoxication which was most frequently met with in the evolutionary history of these affections was that which was consecutive to syphilitic infection. This experience must necessarily be followed by the hope that energetic anti-syphilitic treatment might prevent the full development of the disease, or even effect a cure. While theoretical reasoning for or against such an effect would have its place, there could be no doubt that the ultimate decision as to the influence which mercury and the iodides might have upon the tabic or parietic process would have to be arrived at as a result of clinical experience.

Unfortunately, the question was and must remain a very complicated one. The speaker said he had gone over about one hundred of his cases of tabes and one hundred of those of paresis with a view to answering the following questions: 1. Could energetic anti-syphilitic treatment prevent the development of these affections? 2. Could such treatment diminish or remove certain symptoms? 3. Could such treatment cure the disease?

Dr. Jacoby said that as the result of his experience and inquiries the first question should be answered negatively. He knew it could always be said that a cure did not develop because anti-syphilitic treatment had not been inaugurated sufficiently early, yet such negative testimony was of little value in the face of positive cases which proved the contrary. Two such cases stood out prominently among his histories of tabes. One was that of a youth who became infected with syphilis. He was treated by a specialist thoroughly and persistently for three years. Ten years after infection he consulted Dr. Jacoby for a hyperesthesia in the territory of one of the branches of the left trigeminus. Careful examination revealed some hyperesthesia in that territory, and an analgesia of the cornea. Beginning tabes was suspected. Anti-syphilitic treatment was again instituted, and for a period of years the patient was more or less constantly under the influence of mercury and iodides, yet in spite of the thoroughness of the treatment he developed pupillary rigidity, pains, loss of foot jerks, loss of knee jerks, ataxia, gastric crisis, and to-day, twenty years after the infection, he presents a fully developed tabes.

The second case gave much the same history, excepting that the diagnosis of probable tabes was made as a result of the occurrence of a transitory ophthalmoplegia of one eyeball. In spite of vigorous antiluetic treatment he had recurrent attacks of ophthalmoplegia of both eyes, together with intense headaches. To-day, fifteen years after infection, he had a fully developed tabes, with permanent ophthalmoplegia, in spite of the most strenuous anti-syphilitic treatment.

Dr. Jacoby said that among his cases of paresis there were many

which had developed in spite of careful treatment with mercury and the iodides from the time of infection. Only a few weeks ago he saw such a case, the paresis coming on six years after infection, in a man who had been under constant treatment by a dermatologist with injections, inunctions and potassium iodide from the very beginning. Such positive cases led him to say that anti-syphilitic treatment, no matter how carefully carried out, no matter how early begun, did not prevent the development of these diseases.

The second question must be answered as follows: Of his one hundred cases of tabes, five showed improvement while undergoing anti-syphilitic treatment, and in those the disease had not progressed since. Yet he was by no means willing to say that this arrest of progress was due to the treatment, for we knew that very many cases showed a diminution of symptoms under any or under no treatment, and we knew that tabes was by no means a necessarily progressive disease. He thought that in about one-third of the cases it was thus progressive, while in the remaining ones the process became arrested, or proceeded so very slowly that the length of life and the economic adaptability of the patient was not materially impaired. All neurologists had seen cases in which the tabic process never progressed beyond the point of diagnostic interest.

The prognosis of tabes certainly was different from formerly, yet he believed that this was due to a variety of factors and to a more intelligent care of these patients, rather than to the effect of anti-syphilitic treatment. He also believed that the differentiation of certain cases of *lues spinalis* was at certain stages clinically impossible; furthermore, that there certainly existed a combination of syphilitic meningeal affection and real tabes, and in such cases, amelioration or diminution of symptoms might take place as a result of anti-luetic treatment. In not a single one of his cases, however, whether the diagnosis of tabes was made or whether the diagnosis was that of *lues spinalis* of tabic type was a cure effected. In all of them the diagnosis could be made at all times, after as well as before antileptic treatment.

As regarded the question of the curability or arrest of dementia paralytica, Dr. Jacoby said he had but a few words. The differences of opinion that existed, the fact that the French school had recently claimed so much as a result of mercurial injections in cases of paresis, while the majority of clinicians claimed never to have seen a cured case, could only be understood when we considered the difficulties which existed in establishing an accurate clinical picture of the disease. The more he saw of these cases and the more he studied them, the more did he come to the conclusion that a number of divergent clinical pictures were included under this term. He admitted that there were certain cases of cerebral syphilis or pseudo-paresis which at certain stages he could not differentiate from true paresis. He admitted, furthermore, that he had great difficulty in differentiating certain cases of so-called syphilitic insanity cases with mental excitement and motor restlessness, passing on through stages of mental enfeeblement with muscular insufficiencies into a complete dementia, from cases of genuine paresis. He admitted also that some such cases improved under anti-syphilitic treatment, and ran a very prolonged course. Yet of all his cases of paresis—genuine or pseudo—not one was now living in which the diagnosis was made more than ten years ago, and all of the cases which he had controlled had had

thorough anti-luetic treatment. The speaker said that to him the cure of paresis meant a mistaken diagnosis. He did not believe that this would always be the case, but when cures were effected, it would not be by means of anti-syphilitic treatment, but in consequence of progress in our bacteriological knowledge, and through the discovery of the toxine which caused the disease.

Dr. William B. Noyes thought the whole question resolved itself into a pathological study of syphilis and the toxemias. The pathological changes observed in syphilis—both in its secondary and tertiary stages—were practically embraced by round celled infiltration and gummatous lesions, and in the treatment of those conditions, the ordinary anti-syphilitic remedies could be relied upon; these accumulations of round cells disappeared under iodides, but one could scarcely conceive of mercury or the iodides acting in the same way in dealing with serious degeneration of tissue caused by toxemia. Whatever the cause might be in these cases, whether syphilis or not, the fact remained that we had to deal with a degeneration of the nerve fibers in the cord or the peripheral nerves. The speaker said that in certain cases of tabes, which he had been able to study and follow for years, and where the patients had shown all the typical symptoms of the disease, including the eye and bladder symptoms, and all the classical symptoms of tabes, the autopsy had finally revealed but very slight changes in the posterior columns of the cord, and somewhat more positive changes in the posterior roots and peripheral nerves. The most interesting change that was observed was the development of delicate new connective tissue, supplanting the degeneration in the cord, indicating that regeneration was more in the line of new connective tissue than of new nerve fibers. During every year's time that a tabetic did not grow worse, or improved in his general condition and local symptoms, we could fairly assume that there was such a substitution, to some extent, of new connective tissue for the degenerated fibers. This was practically the condition of the spinal cord in the second or quiescent stage of tabes. It was certainly far better for the patient than a progressive degeneration of the entire posterior columns of the cord.

Dr. Noyes said that in tabes he had seen better results from the use of strychnia and tonics than from the use of anti-syphilitic remedies. In those cases where there was arterial thickening and the symptoms of arterio-sclerosis that were usually present in syphilitics, he thought the administration of small doses of the iodides was allowable, but not with the idea that they would act as an anti-syphilitic, but simply to improve the circulation. No one deliberately treated arterio-sclerosis with large doses of iodides. The speaker said he had seen the ataxia of tabes aggravated by large doses of the iodides, and disappear after their withdrawal. The use of mercury was frequently followed by improvement in various nervous conditions, but this improvement was only temporary unless the disease rested on a syphilitic basis, and even in syphilis the use of mercury was limited to the early stages, and in later stages to occasional use when no careful mercurial treatment seemed to have been carried on. In a tabetic, few physicians would expect to help conditions by the continued use of mercury.

The entire question of the treatment of tabes and paresis rested on the question of diagnosis. In paresis even more than tabes both pathological findings at autopsies as well as careful clinical observations indicated that there was an early sub-acute stage, with the presence of round cells in

the brain tissue, and a chronic stage, marked by degeneration of the ganglion cells of the cortex.

Dr. J. Ramsay Hunt said that his experience with the use of anti-syphilitic remedies in tabes and general paralysis differed but little from that of the previous speakers. Under such treatment, some of the cases improved and some grew worse, so that these remedies should be used with caution in this group of cases. In cases of tabetic optic atrophy, which was regarded as a para-syphilitic manifestation, he had never seen improvement follow the use of anti-syphilitic remedies; on the contrary, he had occasionally observed the condition grow worse under their use. If massive doses of iodide or mercury really influenced favorably the progress of parasyphilitic degenerations of nerve tissue, evidences of this should be observed in this group of cases (the optic atrophies).

Dr. Hunt said it seemed to him that the improvement observed in some cases of tabes and paresis might be ascribed to the disappearance of genuine syphilitic manifestations accompanying the parasyphilis. That these two forms were not infrequently combined was a common observation. It was also possible that the milder meningeal and vascular changes accompanying parasyphilis would be favorably influenced by the use of these remedies.

Dr. Hunt said his personal attitude toward these cases was as follows: During the first and second stage of the parasyphilitic disease he employed anti-syphilitic treatment cautiously from time to time, in the hope of diminishing any meningeal or vascular exudations, and to counteract any genuine syphilitic manifestations. Of the two drugs, iodide and mercury, he gave the preference to the latter.

Dr. William M. Leszynsky said he had seen much harm done in tabes by the use of mercury and the iodides, and he thought the persistent use of these drugs for indefinite periods was not justified. He could recall a number of cases of tabes in which the pupillary symptoms, and especially beginning optic atrophy were apparently aggravated by the use of anti-syphilitic remedies. In any case where he was in doubt between cerebrospinal syphilis and tabes, and the patient had not been subjected to anti-syphilitic treatment, he always gave him the benefit of the doubt by administering these drugs.

Dr. Jacoby, in reply to a question as to how he gave his anti-luetic treatment, said that his method had varied during the past twenty years. In the majority of his cases, the patients had already received thorough anti-syphilitic treatment, some by injections, some by inunctions, etc.

Dr. Kirby said that he had had comparatively little experience in the anti-syphilitic treatment of tabes and general paresis. At the Manhattan State Hospital, at the present time, such treatment was not applied as a routine procedure, but only in certain cases, especially those in which the diagnosis between general paresis and brain syphilis was not clear. Patients suffering from paresis did not come under his observation until the disease was already well established. The anamnesis showed, however, that very few of these patients had been subjected to a thorough anti-syphilitic treatment. The only hospital cases, therefore, in which anti-syphilitic treatment had led to any result were those in which some symptoms of cerebral syphilis accompanied the psychosis.

Dr. Dana said he had in mind certain patients who were affected with syphilis and subsequently developed manifestations of syphilis of the nervous system, such as spinal cord symptoms, and who, after they

had undergone a very thorough and systematic course of anti-syphilitic treatment in Paris or elsewhere, were instructed to repeat the course once or twice yearly as long as they lived in order to avoid tabes or paresis. While he could not speak definitely regarding the efficacy of such a method of treatment, he did know that it was not always effective, as he had seen patients who had developed tabes in spite of it.

Dr. J. F. Terriberry thought the fact had been clearly established that the canonical three-year period of anti-syphilitic treatment was not effective in checking the later manifestations of the disease. For the past five or six years his own plan had been to advise all syphilitics to undergo a two or three months' course of treatment yearly.

With regard to curing tabes or general paresis with anti-syphilitic drugs, Dr. Terriberry thought that was entirely out of the question, at least so far as his experience went. In fact, he did not consider anti-syphilitic remedies indicated in those cases, and he had seen cases of locomotor ataxia improve after the withdrawal of anti-syphilitic medication. He had taken this to indicate that the general welfare of the patient was improved by the withdrawal of those drugs.

Dr. Brush said the worst results he had ever seen in tabes and general paresis were in those patients who had been subjected to energetic anti-syphilitic treatment. He could recall cases of tabes in which the symptoms, after remaining stationary for years, suddenly became aggravated by large doses of mercury or potassium iodide, and the patients went down hill very rapidly. The only good results he had seen from the use of mercury in tabes were when it was given in small tonic doses.

Dr. Dana said that when a patient had once shown any symptoms of nervous syphilis, it was perhaps a wise precaution to tell him that he must take a course of treatment yearly as long as he lives. Such a plan of treatment, carried out in a moderate way, while perhaps not always effective, would be apt to prove beneficial.

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The President, DR. W. N. BULLARD, in the Chair.

A CASE OF PROGRESSIVE MUSCULAR ATROPHY OF THE PERONEAL TYPE.

By Dr. J. J. Thomas.

The boy, H. F., came to the Children's Hospital first on January 27, 1904, when he was two years and two months old. The family was one of Russian Jews, but this child was born in Boston. The parents were healthy. The first child, Solomon, had similar trouble. The second child, at that time a girl of fourteen, and the third, a girl of seven, were healthy.

The patient had had no illness, and there was nothing of importance about the birth.

Four weeks before he was brought in he had had an attack in which he was feverish for four days, and soon after it was noticed that he turned the feet in when walking. At that time it was noted that the